

ABSTRACT

A 15 kDa selenium-containing protein ("selenoprotein") is disclosed. The protein is shown to be differentially expressed in cancer cells, such as prostate cancer cells. There is a correlation between the presence of a polymorphism at nucleotide positions 811 and 1125 of the 15 kDa selenoprotein gene, and the presence of cancer. This polymorphism is more prevalent in the African American population. The determination of an individual's genotype may be used as an indicator of the need for dietary selenium supplementation to inhibit tumor development. Compositions including the isolated protein, specific binding agents that recognize the protein, as well as underlying nucleic acid sequences are presented, as are methods of using such compositions.